US006360891B1

(12) **United States Patent**
Rideout

(10) **Patent No.: US 6,360,891 B1**
(45) **Date of Patent: Mar. 26, 2002**

(54) **ILLUMINATED TOOL ORGANIZER APPARATUS AND METHOD**

(76) Inventor: **Jay B. Rideout**, 507 Union, Steilacoom, WA (US) 98388

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/658,285**

(22) Filed: **Sep. 8, 2000**

Related U.S. Application Data

(60) Provisional application No. 60/153,103, filed on Sep. 9, 1999.

(51) **Int. Cl.**[7] **B65D 85/00**
(52) **U.S. Cl.** **206/373**; 206/372; 362/154
(58) **Field of Search** 206/349, 372, 206/373; 211/70.6; 362/154, 156; 220/735

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,350,065	A *	9/1994	Darrey	206/373
5,379,885	A *	1/1995	Chen	206/216
5,836,446	A *	11/1998	Varnom	206/373
5,879,072	A *	3/1999	Huang	362/156
6,105,768	A *	8/2000	Brown	206/373
6,283,292	B1 *	9/2001	Chen	206/373

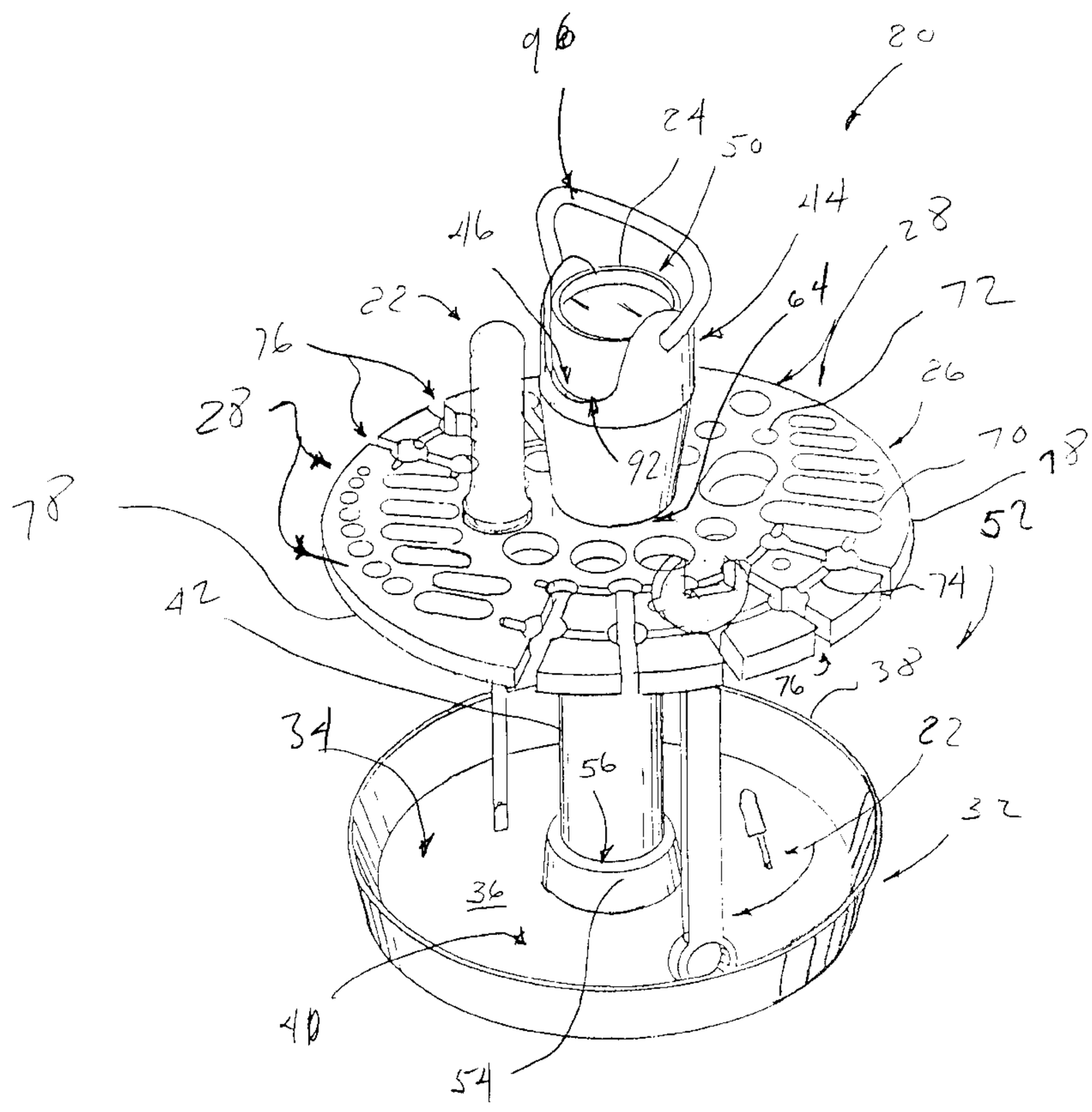
* cited by examiner

Primary Examiner—David T. Fidei

(57) **ABSTRACT**

An illuminated tool organizer is provided to illuminate tools in dark or dimly lighted areas. For this purpose, the tool organizer is arranged for receiving and securing a flashlight, or other portable light source, in a position to illuminate portions of the tool organizer. The illuminated tool organizer includes an upper rack that defines a plurality of openings to receive tools for supporting the same from the upper rack. In addition, a lower base defining a base platform from which to support tools thereon is disposed below the upper rack. To fix the upper rack in spaced relation to the lower base, a support structure is provided to extend upward from the lower base to the upper rack to fix the same at a predetermined elevation above the lower base. In order to receive and secure a flash light in either a horizontal or vertical position, a cradle is disposed adjacent the upper rack. The cradle is formed to define an opening for receiving a flashlight in an upright substantially vertical position. With this arrangement, the flashlight is movable from a first stored position where portions thereof extend downward through the opening, to a second operating position where the flashlight is supported in an upright position, above the upper rack, such that light from the illuminating end of the flashlight is directed downward to illuminate the region between the upper rack and the lower base.

20 Claims, 3 Drawing Sheets



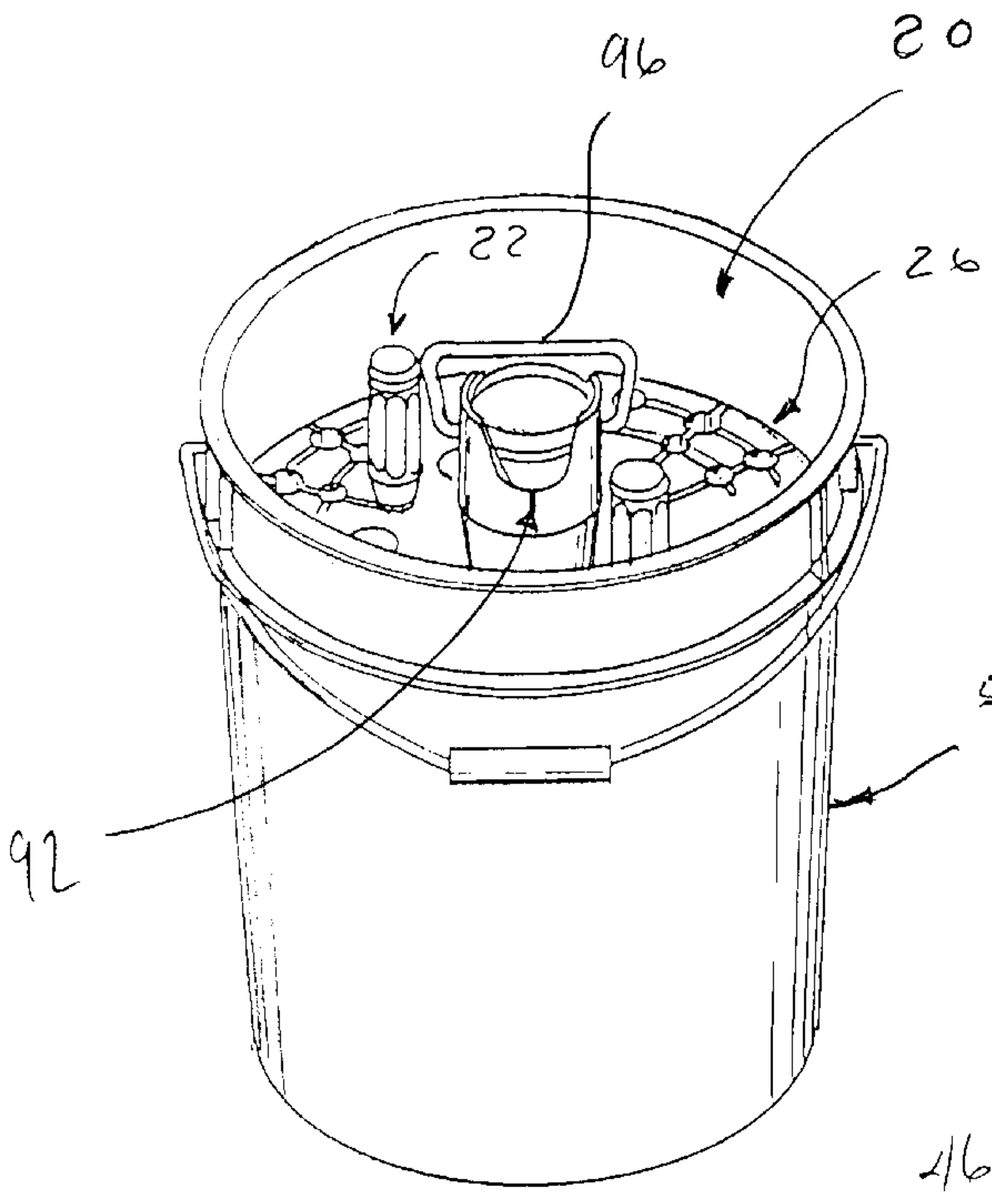

96
20
22
26
92
5 GAL PAIL (94)

FIG. 1

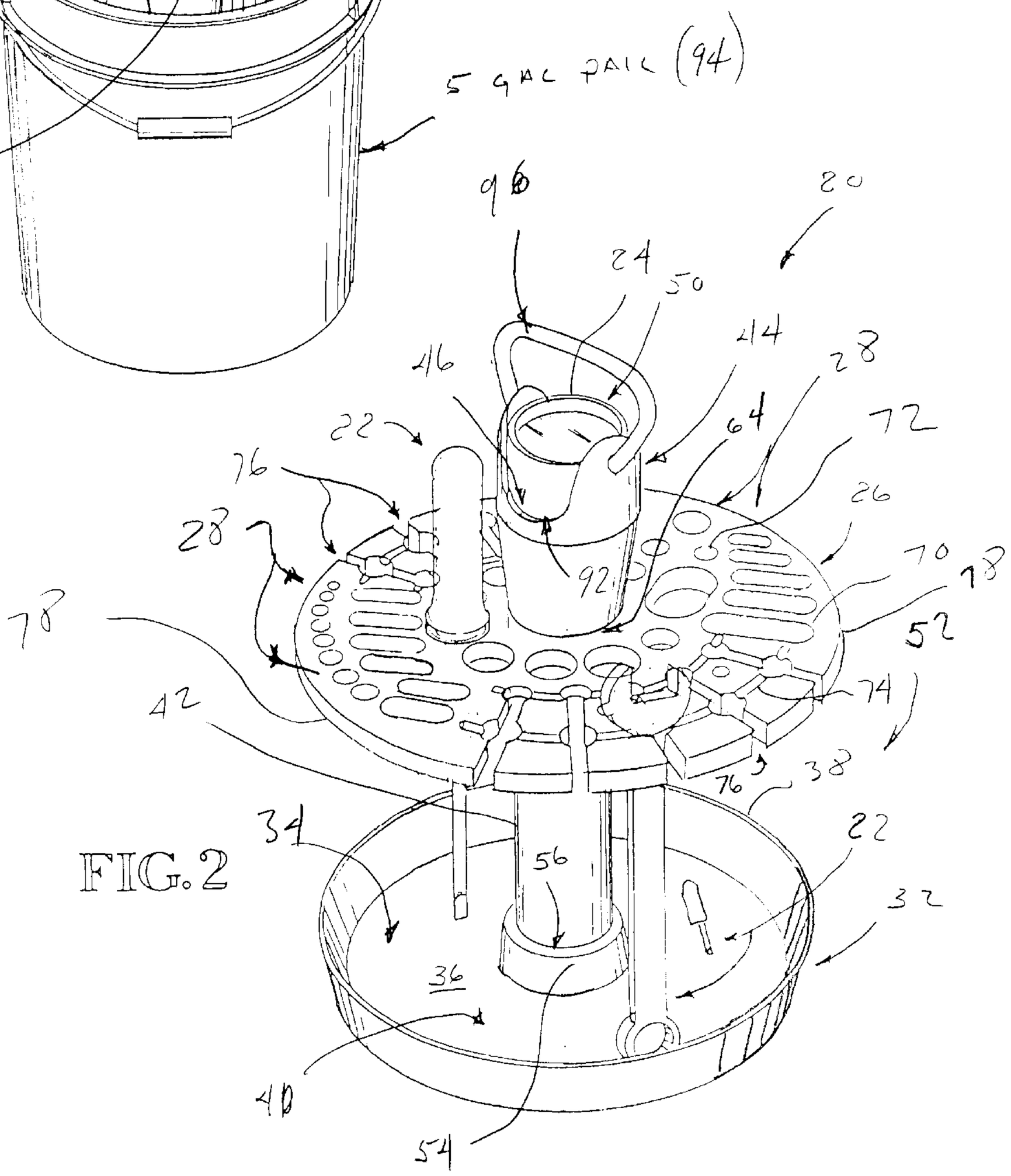
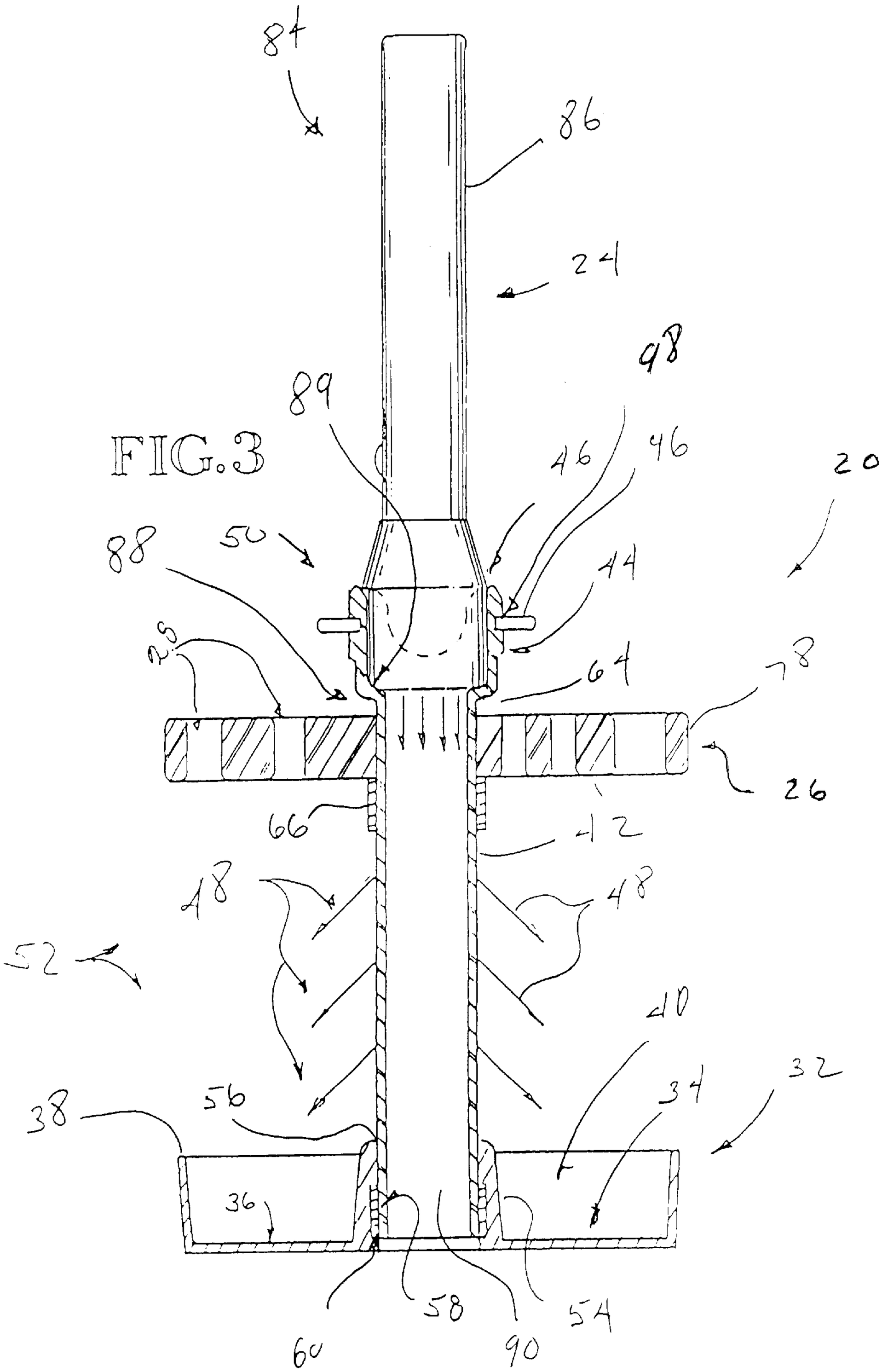

96
20
24
50
16
14
28
22
64
72
76
26
28
70
78
92
78
52
42
74
76
38
34
22
56
32
36
40
54

FIG. 2

FIG. 3


84
86
24
98
89
46
46
20
88
50
44
28
64
78
26
66
42
18
48
52
40
32
56
34
38
36
58
54
60
90

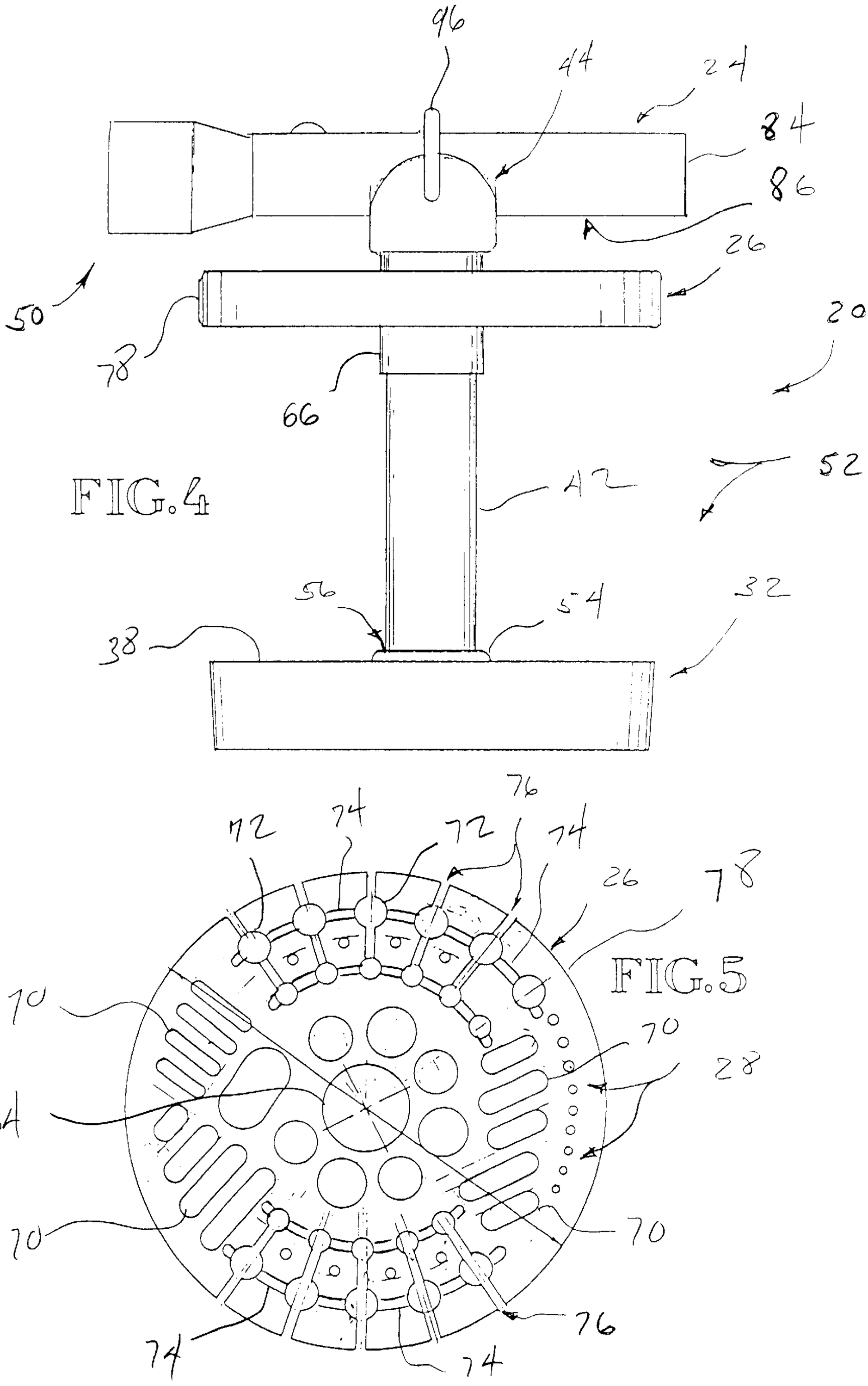

96
44
24
84
86
26
50
78
66
20
52
42
56
54
32
38

FIG. 4

76
72
74
72
74
26
78
70
28
64
70
70
74
74
76

FIG. 5

ILLUMINATED TOOL ORGANIZER APPARATUS AND METHOD

This application claims the benefit of U.S. Provisional Application No. 60/153,103 Filed Sep. 9, 1999.

BACKGROUND

This invention relates generally to tool organizers arranged for storing an assortment of tools, and more particularly to such tool organizers arranged to accommodate a source of illumination.

A number of devices have been invented for organizing and storing tools. For example U.S. Pat. No. 4,826,007 issued in 1989 to Skeie discloses a tool bucket organizer usable with a tool bucket having a flange-like configuration about the perimeter of the bucket and including a cylindrical aperture to provide access to the interior of the bucket. Similarly U.S. Pat. No. 4,826,007 issued in 1990 to Venegoni discloses a bucket organizer tray having a plurality of like stackable organizer trays sized to fit within a bucket.

In contrast, U.S. Pat. No. 5,088,014 issued in 1992 to Boughey discloses a tool caddy with an adjustable light boom. Some other designs include U.S. Pat. No. 5,261,561 issued in 1993 to Hodges disclosing a bucket organizer device for seating atop a pail. Moreover, U.S. Pat. No. 5,437,369 issued in 1995 to Spitere discloses a tool bucket having a handle that serves the purpose of locking tools to the container.

Although the above noted prior art tool bucket organizers, disclose various designs for storing and organizing tools, they typically are not directed to, or teach a simple tool organizer arranged to illuminate the tools therein or the surrounding area with a readily available portable light source.

Accordingly, a need remains for an inexpensive tool organizer arranged to support a source of illumination, such as a flashlight, in various positions to illuminate the tool organizer and the tools therein as well as providing a storage for the light source/flashlight.

SUMMARY

One object of the invention is to enable a person to quickly locate the proper tool from a tool organizer situated in a dimly lighted area.

A second object of the invention is to easily position a flashlight or other portable source of light to illuminate the area adjacent the tool organizer.

Another object is to support a light source or flashlight such that the illumination therefrom illuminates portions of the tool organizer.

Yet another object of the invention is to create storage within the tool organizer for a portable light source or flashlight.

A further object is to minimize the time it takes to locate the proper tool in the tool organizer.

Still another object is to removably secure a portable illuminated tool organizer within a standard 5 gallon container.

The invention is an illuminated tool organizer provided to enable a user thereof to easily identify tools in dark or dimly lighted situations and/or areas. For this purpose, the tool organizer is arranged for receiving and securing a flashlight, or other portable light source, in a position to illuminate portions of the tool organizer. The illuminated tool organizer includes an upper rack that defines a plurality of openings to receive tools for supporting and suspending the same from the upper rack. In addition, a lower base defining a base platform from which to support tools thereon is disposed below the upper rack. As will be more fully explained in the detailed specification, in the preferred embodiment, the base platform defines a support surface having a boundary lip to contain and prevent tools from slipping off the support surface.

Importantly, a support structure is provided to fix the upper rack in spaced relation to the lower base. Accordingly, the support structure extends upward from the lower base to the upper rack to fix the same at a predetermined elevation above the lower base.

In order to receive and secure a flashlight in either a horizontal or vertical position, a cradle is disposed adjacent the upper rack. In the present invention, the cradle is formed to define an opening for receiving a flashlight in an upright substantially vertical position. With this arrangement, the flashlight is movable from a first stored position where portions thereof extend downward through the opening, to a second operating position where the flashlight is supported in an upright position, above the upper rack, such that light from the illuminating end of the flashlight is directed downward to illuminate the region between the upper rack and the lower base.

The foregoing and other objects, features, and advantages of this invention will become more readily apparent from the following detailed description of a preferred embodiment which proceeds with reference to the accompanying drawings, wherein the preferred embodiment of the invention is shown and described, simply by way of illustration of the best mode contemplated of carrying out the invention. As will be realized, the invention is capable of other and different embodiments, and its several details are capable of modifications in various obvious respects, all without departing from the invention. Accordingly, the drawings and description are to be regarded as illustrative in nature, and not as restrictive.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a front side perspective view of a illuminated tool organizer contained within a 5 gallon container wherein a flash light is disposed within the tool organizer in the first stored position.

FIG. **2** is a perspective view of an illuminated tool organizer in accordance with the preferred embodiment wherein a flash light is disposed within the tool organizer in the first stored position.

FIG. **3** is an elevational view of an illuminated tool organizer wherein a flash light is secured in the cradle, disposed in the second upright operating position to illuminate the region between the upper rack and lower base.

FIG. **4** is an elevational view of an illuminated tool organizer wherein a flash light is disposed in an alternate horizontal position upon a cradle where the flash light can illuminate areas away from the illuminated tool organizer.

FIG. **5** is an over head plan view illustrating the arrangement of openings and grooves defined by the upper rack.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

Referring now to the illustrations, FIGS. **1** through **5** illustrate a preferred embodiment constructed in accordance with the present invention. The invention is an illuminated

tool organizer **20** provided to enable a user thereof to easily identify tools **22** in dark or dimly lighted situations and/or areas. For this purpose, the tool organizer **20** is arranged for receiving and securing a flashlight **24** in a position to illuminate portions of the tool organizer **20**. The illuminated tool organizer **20** includes an upper rack **26** that defines a plurality of openings **28** to receive tools **22** for supporting and suspending the same from the upper rack **26**. In addition, a lower base **32** defining a base platform **34** from which to support tools **22** thereon is disposed below the upper rack **26**. As will be more fully explained in the detailed specification, the preferred embodiment provides a base platform **34** that defines a support surface **36** having a boundary lip **38** to contain and prevent tools from slipping off the support surface **36**. More specifically, the boundary lip **38** encompasses the support surface **36** to form a tool tray **40** for receiving and containing loose tools **22**.

Importantly, a support structure **42** is provided to fix the upper rack **26** in spaced relation to the lower base **32**. Accordingly, the support structure **42** extends upward from the lower base **32** to the upper rack **26** to fix the same at a predetermined elevation above the lower base **32**.

In order to receive and secure a flashlight **24** in either a horizontal or vertical position, a cradle **44** is disposed above the upper rack **26**. In the present invention, the cradle **44** is formed to define an opening **46** for receiving a flashlight **24** in an upright substantially vertical position. With this arrangement, the flashlight **24** is movable from a first stored position where portions thereof extend downward through the opening **46**, to a second operating position where the flashlight is supported in an upright position, above the upper rack, such that light **48** from the illuminating end **50** of the flashlight **24** is directed downward to illuminate the region **52** between the upper rack **26** and the lower base **32**.

Considering now in more detail the components from which a tool organizer **20** is constructed, in the preferred embodiment, the support structure **42** is tubular in shape and is centrally disposed between the lower base **32** and the upper rack **26**. To maximize light transmission from the flashlight **24**, for illuminating the lower base **32** and the adjacent region, the support structure **42** is constructed from translucent material. For this purpose, readily available translucent plastic (PVC) tubular material is employed therefor. As will be more fully explained below, the cradle **44** is integrally molded with the support structure **42**. The process for so integrally molding the cradle **44** and the support structure **42** could include vacuum formed rotationally molded techniques, and/or injection molding methods.

In the preferred embodiment, the lower base **32** is fixed to the support structure **42** by a centrally disposed projecting support collar **54** that is integrally molded with the lower base **32**. Although any number of acceptable manufacturing methods could be employed, rotomolded polyethylene is employed in the present invention. Importantly, the support collar **54** defines an inner bore **56** sized to firmly receive the tubular support structure **42** therein. For this purpose, the support collar **54** includes a radially disposed recessed groove **58**. In this way, the support structure **42** can be securely fixed to the lower base **32** by placing glass filled polyester resin **60** within recessed groove **58**.

As noted above, in the present invention, the lower base **32** includes a support surface **36** and an integrally molded boundary lip **38** to form a tool tray **40** for containing tools **22**. For the purposes of this detailed specification, it should be noted that the tools **22** collectively include all tools that are illustrated in the drawings. Although this is a preferred construction, other arrangements could be practiced. For example, the lower base **32** could be constructed without a boundary lip **38** (not illustrated). Moreover, the support structure **42** could be constructed with components disposed on the radially outer edges of the lower base **32** (not illustrated) extending upward to the upper rack **26**.

Directing attention to FIGS. **2** and **3**, the upper rack **26** is spaced upward from the lower base **32**. To facilitate the connection between the upper rack **26** and the support structure **42**, a centrally disposed bore **64** is provided in the upper rack **26**. Accordingly, the support structure **42** is positioned through bore **64** prior to attaching the lower base **32**. In addition, a sleeve **66** is disposed below the upper rack **26**, about the support structure **42**. The sleeve **66** is welded to the support structure **42**, in a location to properly position and support the upper rack **26**. Thus, the upper rack **26** rests upon sleeve **66**. radial

Explaining in more detail, upper rack **26** comprises a plurality of tool openings **28** in the form of slots **70** and bores **72** of various sizes. Additionally, semi-circular shaped grooves **74** are formed to extend between bores **72**. The grooves **74** are so provided to create a depressed surface to maintain the tools in proper position and to prevent the same from sliding out of the bores **72**. Importantly, the upper rack **26** of the present invention includes a pattern of slots **70** and bores **72** as illustrated best in FIG. **5**. It should be noted, however, that many alternate patterns of the same (not illustrated) could be employed with equally satisfactory results for tool support and organization. Additionally, a plurality of radially disposed access slots **76** extend inward from the outer edge **78** of the upper rack **26** to a plurality of bores **72**. In this way, a user can quickly and easily move tools horizontally into position for support by the upper rack **26**. Further, it should be understood that the material employed for the upper rack **26** is similarly a PVC or plastic molded to the proper shape to define the above noted bores **72** slots **70** and grooves **74**. However, any other rigid or semi-rigid material that can be shaped or molded, including wood, could be used to construct the upper rack **26**.

Turning again to FIGS. **1**, **2** and **3**, a cradle **44** is illustrated supporting a flash light **24**. As noted above, the cradle **44** is integrally formed with the support structure **42**. Although the present invention calls for this construction, the cradle **44** could be constructed as a separate part (not illustrated) to be joined with either the support structure **42**, or with the upper rack **26**. Importantly the cradle **44** comprises an opening **46** which is sized to receive the enlarged illuminating end **50** of a Mag-Lite™ style flashlight **24**. Similar to most commercially available flashlights, the Mag-Lite™ style flashlight comprises a long battery-holding tubular portion **86** having a diameter which is smaller than that of the enlarged illuminating end **50**. As will be more fully explained below, the cradle **44** is constructed to secure the illuminating end **50** of a flashlight above the upper rack **26**.

For this purpose, a step **88** is formed to create a radially outer surface **89** thereby providing a transition between the cradle **44** and the support structure **42**. The step **88** forms a reduced diameter passage **90** through which the tubular portion **86** of a flashlight can extend downward through the support structure **42**. Accordingly, the cradle **44** can secure a flashlight such that the illuminating end **80** is directed downward (FIG. **3**), i.e., the second operating position, or alternately with the illuminating end **80** directed upward (FIG. **1**), i.e., the first stored position where the tubular portion **86** of the flashlight **24** can extend. Additionally, it should be noted that the cradle **44** could be simply be constructed as a step, i.e., step **88** thereby forming a surface to engage a flashlight **24**.

Further, the cradle **44** comprises opposing recessed portions **92** that are shaped to receive the tubular portion **86** of a flashlight **24** in a horizontal position. Accordingly, a flashlight **24** can be received by the cradle **44** such that the illuminating end **50** is directed either horizontally, or vertically. It should be understood that the term flashlight is used herein to define an self contained portable source of light. Moreover, with regard to a preferred embodiment, the typical construction for a flashlight comprises an illuminating end **50** which is somewhat larger that the tubular portion **86** which extends therefrom. However, other embodiments (not illustrated) could be designed to work with flashlights constructed of various other shapes (not illustrated).

Finally, the construction of the components of the present invention are sized and shaped such that the tool organizer **20** will fit within a typical round 5 gallon container **94**. Accordingly, in a preferred embodiment, the upper rack **26** and the lower base **32**/tool tray **40** are round in shape thereby maximizing the area of the same. Similarly, the height of the tool organizer **20** is equal to or less than that of a 5 gallon container **94**.

In addition, a handle **96** is attached to the cradle **44** so that the tool organizer **20** can be easily lifted from the five gallon container **94**. The handle **96** is formed from metal rod bent and shaped to attach to cavities **98** formed in opposing sides of the cradle **44**. In this way, the handle **96** can pivot out of the way to allow the flashlight to extend upward in the operating position.

Having illustrated and described the principles of my invention in a preferred embodiment thereof, it should be readily apparent to those skilled in the art that the invention can be modified in arrangement and detail without departing from such principles. I claim all modifications coming within the spirit and scope of the accompanying claims.

What is claimed is:

1. An illuminated tool organizer arranged for receiving and securing a flashlight in a position to illuminate areas adjacent the tool organizer and the tools secured therein, the tool organizer comprising:

an upper rack defining a plurality of openings for receiving and supporting tools from the upper rack;

a lower base;

a support structure extending upward from the lower base to the upper rack to fix the upper rack in spaced relation to the lower base;

a cradle disposed adjacent the upper rack for receiving and engaging a flashlight, the cradle defining an opening for receiving a flashlight in an upright substantially vertical position; and

wherein the flashlight is movable from a first stored position where portions thereof extend downward through the cradle and through the opening, within the support structure, to a second operating position where the flashlight is supported by the cradle substantially above the support structure.

2. A tool organizer as recited in claim **1** wherein the flashlight is movable from a first stored position where portions thereof extend downward through the cradle and through the opening, to a second operating position where the flashlight is supported by the cradle in an upright position substantially above the upper rack such that light from the flashlight is directed through the opening downward to illuminate the region between the upper rack and the lower base.

3. A tool organizer as recited in claim **1** wherein the cradle extends upward from the upper rack for receiving the flashlight in a substantially horizontal position such that the light from the flashlight is directed outward from the tool organizer.

4. A tool organizer as recited in claim **3** wherein the cradle is arranged to define opposing recessed portions to receive and hold a flashlight in a horizontal position.

5. A tool organizer as recited in claim **2** wherein the cradle defines a step for receiving and engaging the flashlight in the upright, substantially vertical position.

6. A tool organizer as recited in claim **1** wherein the lower base defines a base platform from which to support tools thereon.

7. A tool organizer as recited in claim **6** wherein the base platform defines a support surface and a boundary lip disposed to contain tools on the support surface.

8. A tool organizer as recited in claim **1** wherein the support structure is defined by a centrally disposed translucent enclosure.

9. A tool organizer as recited in claim **8** wherein the support structure is tubular.

10. A tool organizer as recited in claim **1** further comprising a handle arranged to engage the cradle so that a user can lift the tool organizer by the handle.

11. A tool organizer as recited in claim **1** wherein the upper rack and the lower base are circular in shape such that the same can be positioned within a standard 5 gallon container.

12. A tool organizer as recited in claim **1** wherein the cradle is integrally formed with support structure that extends upward from the lower base.

13. A method for making an illuminated tool organizer arranged for receiving and securing a flashlight in a position to illuminate portions of the tool organizer and the tools secured therein, comprising the steps:

forming an upper rack to define a plurality of openings for receiving and supporting tools from the upper rack;

providing a lower base;

operatively positioning a support structure to extend upward from the lower base to the upper rack to fix the upper rack in spaced relation to the lower base;

providing a cradle disposed adjacent the upper rack for receiving and engaging a flashlight, the cradle defining an opening for receiving a flashlight in an upright substantially vertical position; and

wherein the flashlight is movable from a first stored position where portions thereof extend downward through the cradle and through opening, within the support structure, to a second operating position where the flashlight is supported by the cradle substantially above the support structure.

14. A method as recited in claim **13** further comprising the step of arranging the cradle such that the flashlight is movable from a first stored position where portions thereof extend downward through the cradle and through the opening, to a second operating position where the flashlight is supported by the cradle in an upright position substantially above the upper rack such that light from the flashlight is directed through the opening downward to illuminate the region between the upper rack and the lower base.

15. A method as recited in claim **13** further comprising the step of arranging the cradle to define opposing recessed portions to receive and hold a flashlight in a horizontal position.

16. A method as recited in claim **13** further comprising the step of arranging the cradle to define a step for receiving and engaging the flashlight in the upright, substantially vertical position.

17. A method as recited in claim 13 further comprising the step of arranging the base to define a base platform from which to support tools thereon.

18. An illuminated tool organizer arranged for receiving and securing a flashlight in a position to illuminate areas adjacent the tool organizer, the tool organizer comprising:

an upper rack defining a plurality of openings for supporting and suspending tools therefrom;

a lower base defining a storage space for receiving tools;

a support structure extending upward from the lower base to the upper rack to fix the upper rack in spaced relation to the lower base;

a cradle defined by the upper rack for receiving a flashlight, the cradle defining an opening for supporting a flashlight in an upright position, wherein the flashlight is movable from a first storage position where portions thereof extend downward through the opening, to a second operating position where the flashlight is supported in an upright position above the upper rack such that light from the flashlight is directed through the opening downward to illuminate the region between the upper rack and the lower base.

19. A tool organizer as recited in claim 18 wherein the cradle extends upward from the upper rack for receiving the flashlight in a substantially horizontal position such that the light from the flashlight is directed outward from the tool organizer.

20. A tool organizer as recited in claim 18 wherein the cradle is arranged to define opposing recessed portions to receive and hold a flashlight in a horizontal position.

* * * * *